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-50°C

15W/05 capsules can be used. The resin mixture should be stored in containers. Gloves should be used to avoid skin contact (see also p. 6).

INCOMPLETE DEHYDRATION FOR LIPID PRESERVATION

70% Ethanol in water	5 min at 0°C
70% Ethanol in water	5 min at 0°C
95% Ethanol in water	5 min at 0°C
95% Ethanol in water	5 min at 0°C
Resin	1 hr at 0°C
Resin	1 hr at 0°C
Resin	1 hr at 0°C
Resin mixture	Overnight at 4°C
Infiltrate and embed in resin	

WATER-IMMISCIBLE EMBEDDING MEDIA

Epoxy Resins

Epon 812 (LX-112)

Since LX-112 (Ladd Res. Ind.) is a generic replacement for Epon 812, the proportions of DDSA, NMA, and DMP-30 for LX-112 are the same as for Epon 812.* Since the W.P.E. (weight per epoxide equivalent) values of the epoxies vary from lot to lot, the only reliable way to ensure reproducible hardness of the block is by using the W.P.E. for the embedding formulations. The W.P.E. value can be utilized for embedding on a weight basis from the following equation:

$$\text{Weight of anhydride (DDSA and NMA) required} = \frac{100}{\text{W.P.E.}} \times \text{Anhydride molecular weight} \times \text{Ratio of anhydride to epoxy resin equivalents}$$

where 100 = grams of epoxy resin (100 is arbitrary, being used only as an example), and W.P.E. = weight of epoxy resin containing one equivalent weight

*Other replacements for Epon 812 include Poly/Bed 812, Polarbed 812, and Epok 812. DDSA is dodecenyl succinic anhydride; NMA or MNA is nadic methyl anhydride; DMP-30 is 2,4,6-trimethyl phenol.

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Water-Immiscible Embedding Media

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of epoxide. Molecular weights of NMA and DDSA are 178 and 266, respectively. The ratio of anhydride equivalent to epoxy resin equivalent is 0.7:1.

Table 2.2 indicates the W.P.E. values and the required proportions of DDSA and NMA. The higher the W.P.E. value, the lower the proportions of DDSA and NMA.

For accuracy of measurement, the gravimetric rather than the volumetric measurement is recommended for the preparation of embedding formulations. If, for example, the W.P.E. of LX-112 resin is 166, the following formulation is recommended:

Mixture A	
LX-112	80 g 100
DDSA	90 g
Mixture B	
LX-112	100 g
NMA	75 g

TABLE 2.2.

Proportions of DDSA and NMA Determined by the Weight per Epoxide Equivalent (W.P.E.) of Epoxy Resins (LX-112, Epon 812)^a

Resin W.P.E.	Weight of DDSA, mixture A	Weight of NMA, mixture B	Resin W.P.E.	Weight of DDSA, mixture A	Weight of NMA, mixture B
140	106	89	158	94	79
141	106	88	159	94	78
142	105	88	160	93	78
143	104	87	161	93	77
144	103	86	162	92	77
145	103	86	163	91	76
146	102	85	164	91	76
147	101	85	165	90	76
148	101	84	166	90	75
149	100	84	167	89	75
150	99	83	168	89	74
151	99	83	169	88	74
152	98	82	170	88	73
153	97	81	171	87	73
154	97	81	172	87	72
155	96	80	173	86	72
156	95	80	174	86	72
157	95	79	175	85	71

^aThe amount of the resin is 100 g in each mixture, and the weights of DDSA and NMA are in grams.

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